

Math Fundamental: Unit 2 Pre-Test

1.) (1 pt each, 2 pts total) Write the shaded amount as a fraction.



2.) (2 pts each, 4 pts total) Solve each fraction as though it were a division problem. Write your answer as a mixed number.

a)  $\frac{78}{8}$

$9 \frac{6}{8}$

$8 \overline{) 78}$

$9 \frac{6}{8} \div 2 = 9 \frac{3}{4}$

b)  $\frac{57}{9}$

3.) (2 pts each, 4 pts total) Solve each problem. Make sure to write your answer as a fraction.

a) A doctor gave his patient liquid medicine and told him to drink 28 cups over the next 6 days. How much should the patient drink each day?

$\frac{28}{6}$

$6 \overline{) 28}$

$4 \frac{4}{6} \div 2 = 4 \frac{2}{3}$

b) Sam had collected 60 leaves to feed to his caterpillar collection. If he wanted to split the leaves equally amongst the 7 cages, how much should he put in each cage?

4.) (2 pts each, 4 pts total) Solve each problem. Write the answer as a mixed number fraction (if possible).

a)  $\frac{9}{12} - \frac{1}{12} = \frac{8 \div 2}{12 \div 2} = \frac{4 \div 2}{6 \div 2} = \frac{2}{3}$

b)  $\frac{3}{4} + \frac{2}{4}$

5.) (3 pts each, 6 pts total) Solve each problem. Write the answer as a mixed number fraction (if possible).

a)  $\frac{8}{10} - \frac{2}{4}$

$\frac{8}{10} = \frac{16}{20}$  (multiplied by 2)

$\frac{2}{4} = \frac{10}{20}$  (multiplied by 5)

$\frac{16}{20} - \frac{10}{20} = \frac{6}{20} = \frac{3}{10}$  (divided by 2)

b)  $\frac{3}{6} + \frac{3}{8}$

6.) (3 pts each, 6 pts total) Solve each problem.

a)  $\frac{5}{1} \times \frac{1}{8} = \frac{5}{8}$

b)  $\frac{1}{12} \times 4$

7.) (3 pts each, 6 pts total) Solve each problem. Answer as a mixed fraction.

a)  $\frac{5}{1} \times \frac{4}{6}$       $\frac{5}{1} \times \frac{4}{6} = \frac{20}{6} \div 2 = \frac{10}{3}$

b)  $\frac{6}{10} \times 3$

8.) (3 pts each, 6 pts total) Solve each problem.

a)  $\frac{2}{3} \times \frac{1}{2}$

b)  $\frac{9}{12} \times \frac{6}{8}$       $\frac{9}{12} \times \frac{6}{8} = \frac{9}{2} \times \frac{1}{8} = \frac{9}{16}$

9.) (3 pts each, 12 pts total) Solve each problem. Answer as an improper fraction (if necessary)

a)  $\frac{6}{7} \times \frac{7}{10}$   $\frac{6}{7} \div 7 * \frac{7}{10} \div 7$   
 $\frac{6}{1} * \frac{1}{10} \div 2$   $\frac{3}{1} * \frac{1}{5} = \boxed{\frac{3}{5}}$

b)  $\frac{9}{24} \times \frac{6}{90}$

c)  $\frac{3}{2} \times 3\frac{4}{6}$   $3\frac{4}{6} = \frac{(3*6)+4}{6} = \frac{18+4}{6} = \frac{22}{6}$   
 $\frac{3}{2} * \frac{22}{6} \div 2$   $\frac{1}{2} * \frac{22}{4} \div 2$   $\frac{1}{2} * \frac{11}{1} = \boxed{\frac{11}{2}}$

d)  $\frac{7}{9} \times \frac{15}{4}$   
 $3\frac{4}{6}$   
 $\frac{6}{6} + \frac{6}{6} + \frac{6}{6} + \frac{4}{6} = \frac{22}{6}$

10.) (3 pts each, 6 pts total) Solve each problem. Write your answer as a mixed number (if possible).

a)  $\frac{1}{2} \div \frac{9}{1}$   $\frac{1}{2} * \frac{1}{9} = \boxed{\frac{1}{18}}$  Keep  
Change  
Flip

b)  $7 \div \frac{1}{5}$

11.) (3 pts each, 6 pts total) Write your answer as a mixed number (if possible).

a)  $\frac{22}{8} \div \frac{11}{2}$

$\frac{22}{8} \div \frac{11}{2} = \frac{22}{8} \times \frac{2}{11} = \frac{22 \times 2}{8 \times 11} = \frac{44}{88} = \frac{1}{2}$

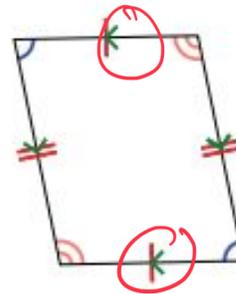
b)  $8\frac{1}{2} \div \frac{34}{6}$

12.) (3 pts each, 6 pts total) Name each of the following shapes. Place a check beside each category of shape for which it qualifies.

a) Name of Shape: *Parallelogram*

This shape also fall under the category of:

- kite
- parallelogram
- quadrilateral
- rectangle
- rhombus
- square
- trapezoid

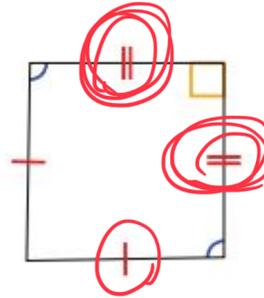


b) Name of Shape: *kite*

no parallels

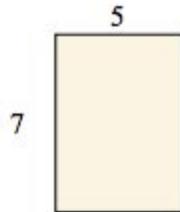
This shape also fall under the category of:

- kite
- parallelogram
- quadrilateral
- rectangle
- rhombus
- square
- trapezoid



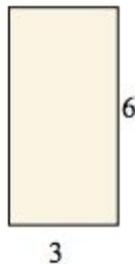
13.) (2 pts each, 4 pts total) Find the area (in cm) of the rectangles shown.

a)



$7 * 5 = 35 \text{ cm}^2$

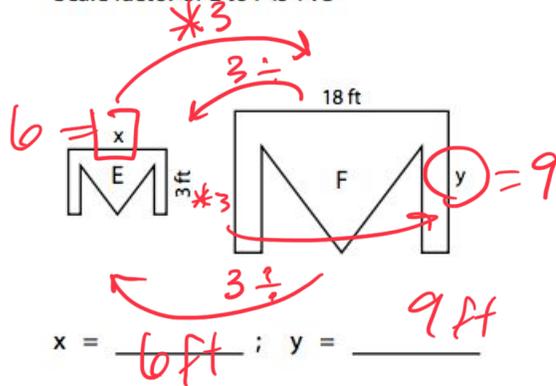
b)



14.) (3 pts each, 6 pts total) Find x and y.

a)

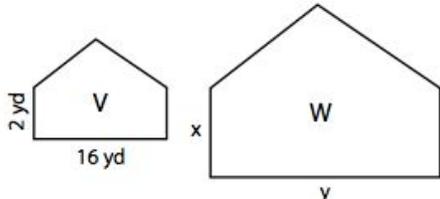
Scale factor of E to F is 1 : 3



$x = 2$  ;  $y = 27$

b)

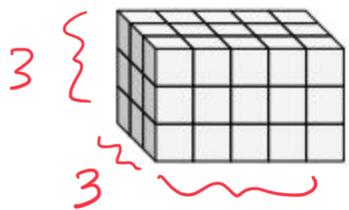
Scale factor of W to V is 4 : 1



$x = 8$  ;  $y = 4$

15.) (2 pts each, 4 pts total) Find the length, width and height of the rectangular prism. Then find the volume.

- a) L = \_\_\_\_\_
- W = \_\_\_\_\_
- H = \_\_\_\_\_
- V = \_\_\_\_\_



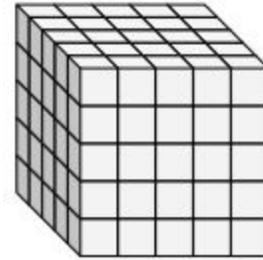
$3 \times 3 \times 5$   
 $9 \times 5$   
 45 units<sup>3</sup>

b) L = \_\_\_\_\_

W = \_\_\_\_\_

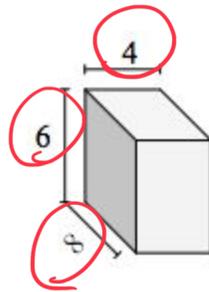
H = \_\_\_\_\_

V = \_\_\_\_\_



16.) (3 pts each, 6 pts total) Find the volume of each of the rectangular prisms. Measured in cm (not to scale).

a)

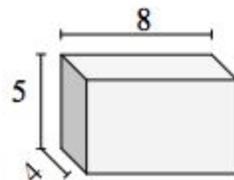


$$4 * 6 * 8$$

$$\underline{24} * 8 =$$

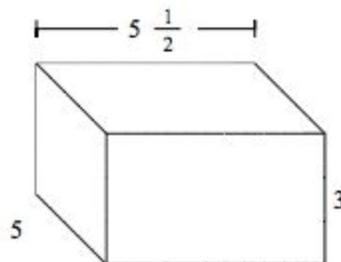
$$192 \text{ cm}^3$$

b)



17.) (3 pts each, 6 pts total) Find the volume of each of the rectangular prisms. Measured in cm (not to scale).

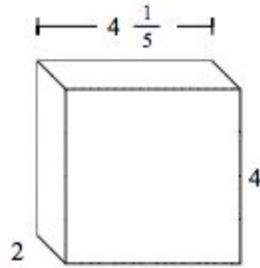
a)



$$5\frac{1}{2} = \frac{(5*2)+1}{2} = \frac{11}{2}$$

$$\frac{5}{1} * \frac{3}{1} * \frac{11}{2} = \frac{165}{2} \text{ cm}^3$$

b)



18.) (3 pts each, 6 pts total) Find the total volume of each figure shown. Measured in cm (not to scale). Please note: the floating number represents the width of the figure

a)

Total Area  $A + B$   
 $24 + 40 = 64 \text{ cm}^3$

$4 * 3 * 2$   
 $\underline{12 * 2 = 24}$   
 B  
 $4 * 5 * 2$   
 $\underline{20 * 2 = 40}$

b)

